CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory
An ISO 9001:2015 Certified Company
NABL - Accredited Laboratory as per ISO / IEC-17025 : 2017

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/Cube/2019-20 13.03.2020

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Dry Lean Concrete
Technical Reference	:	IS: 516-1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	Dry Lean Concrete
Compressive Strength as on	:	7^{th} day
Sample Received on	:	13.03.2020
Report Issue Date	:	13.03.2020

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	06.03.2020	13.03.2020	8.135	259.6	11.54
2	06.03.2020	13.03.2020	8.219	264.3	11.75
3	06.03.2020	13.03.2020	8.325	272.9	12.13

*Information is furnished by the Customer/Representative.

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M/s. Civil-Tech Consultants & Engineers

Authorised Signatory

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* Sample ID	:	Dry Lean Concrete
Technical Reference	:	IS: 516-1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	Dry Lean Concrete
Compressive Strength as on	:	7^{th} day
Sample Received on	:	13.03.2020
Report Issue Date	:	13.03.2020

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	06.03.2020	13.03.2020	8.254	251.8	11.19
2	06.03.2020	13.03.2020	8.398	263.8	11.72
3	06.03.2020	13.03.2020	8.402	272.5	12.11

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/Cube/2020-21 09.04.2020

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP,
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Road Concrete
Test Method as per	:	IS - 516 : 1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{30}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	09.04.2020
Report Issue Date	:	09.04.2020

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	12.03.2020	09.04.2020	8.112	719.5	31.98
2	12.03.2020	09.04.2020	8.298	722.3	32.10
3	12.03.2020	09.04.2020	8.310	734.6	32.65

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Test Method as per	:	IS - 516 : 1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{30}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	09.04.2020
Report Issue Date	:	09.04.2020

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	12.03.2020	09.04.2020	8.223	710.3	31.57
2	12.03.2020	09.04.2020	8.389	729.8	32.44
3	12.03.2020	09.04.2020	8.415	745.9	33.15

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* Name of the work	: Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	: EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	: Road Concrete
Test Method as per	: IS - 516 : 1959 (RA-2018)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 09.04.2020
Report Issue Date	: 09.04.2020

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	12.03.2020	09.04.2020	8.090	720.3	32.01
2	12.03.2020	09.04.2020	8.110	734.9	32.66
3	12.03.2020	09.04.2020	8.280	743.3	33.04

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Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{30}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	09.04.2020
Report Issue Date	:	09.04.2020

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	12.03.2020	09.04.2020	8.335	705.5	31.36
2	12.03.2020	09.04.2020	8.415	715.6	31.80
3	12.03.2020	09.04.2020	8.456	721.3	32.06

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* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Road Concrete
Test Method as per	:	IS - 516 : 1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{30}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	09.04.2020
Report Issue Date	:	09.04.2020

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	12.03.2020	09.04.2020	8.225	719.8	31.99
2	12.03.2020	09.04.2020	8.395	721.5	32.07
3	12.03.2020	09.04.2020	8.419	731.6	32.52

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/QBDBM)/2019-20 13.03.2020

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Bitumen
Source/ Location	:	Hot Mix Plant, Bangalore.
Sample Received on	:	11.03.2020
Period of Testing	:	11.03.2020 to 13.03.2020
Report Issue Date	:	13.03.2020

The results of the tests conducted on the bitumen sample are as follows:

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013 (RA-2018) for VG 30
1	Penetration at 25 °C, 1/10 mm	IS :1203 -1978 (RA-2019)	48	Min. 45
2	Softening point (R & B), °C	IS :1205 -1978 (RA-2019)	49	Min. 47
3	Ductility at 27°C, cm	IS :1208 -1978 (RA-2019)	100	Min. 40
4	Flash Point, °C	IS :1209 -1978 (RA-2019)	290	Min. 220

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Job No.: CTCE/BBMP/KRIDL/W.No.14/DBM/AIV/2019-20 13.03.2020

TEST REPORT ON AGGREGATE IMPACT VALUE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Hot Mix Plant, Bangalore
Test Method as per	:	IS - 2386(Part -4) : 1963 (RA-2016)
* Type of Mix	:	Dense Graded Bituminous Macadam
Date of Testing	:	13.03.2020
Report Issue Date	:	13.03.2020

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	384	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	303	
4	Aggregate Impact value = percent fines $100^* (W_2/W_1)\%$	21.35	21.50	21.43

* Information is furnished by the Customer/Representative

Comments:

→ Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27%

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* Sample ID	:	Hot Mix Plant, Bangalore
Test Method as per	:	IS - 2386(Part -4) : 1963 (RA-2016)
* Type of Mix	:	Dense Graded Bituminous Macadam
Date of Testing	:	13.03.2020
Report Issue Date	:	13.03.2020

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	386	387	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines $100^* (W_2/W_1)\%$	21.76	21.96	21.86

* Information is furnished by the Customer/Representative

Comments:

→ Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27%

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